



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Huawei

SPECint®\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175

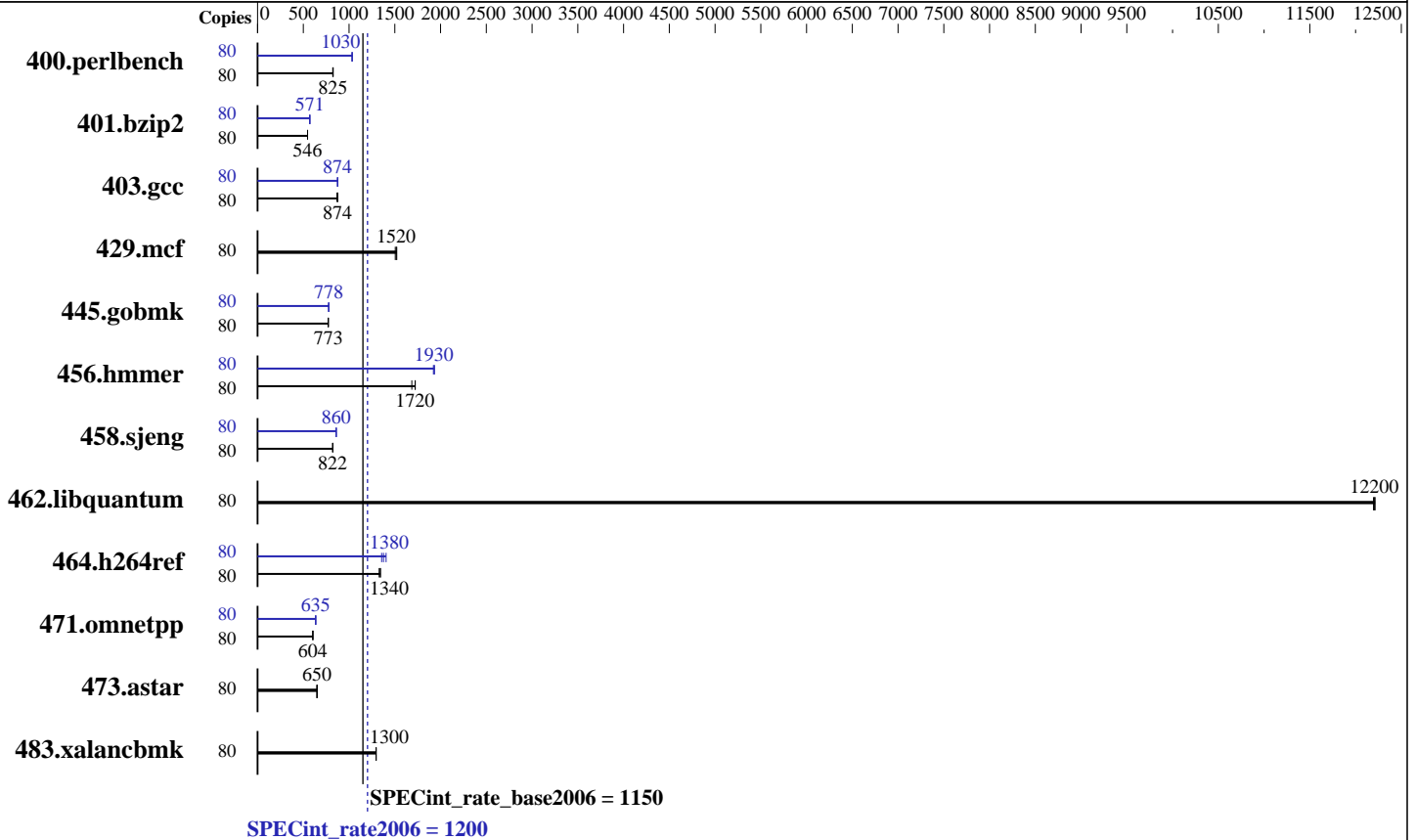
Test date: May-2015

Test sponsor: Huawei

Hardware Availability: May-2015

Tested by: Huawei

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E7-4820 v3  
 CPU Characteristics:  
 CPU MHz: 1900  
 FPU: Integrated  
 CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip, 2 threads/core  
 CPU(s) orderable: 2,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1333 MHz)  
 Disk Subsystem: 2 x 300 GB SAS, 10K RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)  
 3.10.0-123.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Huawei

SPECint\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei

Test date: May-2015  
Hardware Availability: May-2015  
Software Availability: Sep-2014

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	80	951	822	<b>947</b>	<b>825</b>	946	826	80	755	1040	757	1030	<b>756</b>	<b>1030</b>
401.bzip2	80	<b>1413</b>	<b>546</b>	1414	546	1412	547	80	1350	572	1353	570	<b>1352</b>	<b>571</b>
403.gcc	80	<b>737</b>	<b>874</b>	734	877	742	868	80	735	876	<b>737</b>	<b>874</b>	737	873
429.mcf	80	485	1500	480	1520	<b>481</b>	<b>1520</b>	80	485	1500	480	1520	<b>481</b>	<b>1520</b>
445.gobmk	80	<b>1086</b>	<b>773</b>	1085	773	1087	772	80	<b>1079</b>	<b>778</b>	1079	778	1080	777
456.hmmer	80	443	1690	<b>433</b>	<b>1720</b>	433	1720	80	386	1930	<b>387</b>	<b>1930</b>	388	1920
458.sjeng	80	1177	822	<b>1178</b>	<b>822</b>	1178	822	80	<b>1126</b>	<b>860</b>	1127	859	1126	860
462.libquantum	80	136	12200	136	12200	<b>136</b>	<b>12200</b>	80	136	12200	136	12200	<b>136</b>	<b>12200</b>
464.h264ref	80	1332	1330	1319	1340	<b>1319</b>	<b>1340</b>	80	<b>1286</b>	<b>1380</b>	1305	1360	1260	1400
471.omnetpp	80	828	604	<b>828</b>	<b>604</b>	826	605	80	<b>787</b>	<b>635</b>	787	635	786	636
473.astar	80	867	648	<b>864</b>	<b>650</b>	859	653	80	867	648	<b>864</b>	<b>650</b>	859	653
483.xalancbmk	80	<b>426</b>	<b>1300</b>	426	1290	426	1300	80	<b>426</b>	<b>1300</b>	426	1290	426	1300

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"  
Turbo mode set with:  
cpupower -c all frequency-set -g performance

## Platform Notes

BIOS configuration:  
Set Power Efficiency Mode to Performance  
Set Lock\_step to disabled  
Baseboard Management Controller used to adjust the fan speed to 100%  
Set DRAM Maintenance to Manual  
Set DRAM Maintenance Mode to pTRR  
Set Patrol Scrub to Enabled  
Set Memory Power Saving to disabled  
Sysinfo program /spec/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on RH5885HV3 Fri May 22 05:03:28 2015

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

## Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E7-4820 v3 @ 1.90GHz
 4 "physical id"s (chips)
 80 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
  cpu cores : 10
  siblings  : 20
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
  physical 2: cores 0 1 2 3 4 8 9 10 11 12
  physical 3: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB

```

```

From /proc/meminfo
MemTotal:      1056469652 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

```

```

uname -a:
Linux RH5885HV3 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 May 22 05:01

```

SPEC is set to: /spec
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       xfs   537G   37G  501G   7% /

```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. BL1SV705 03/30/2015  
Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei

Test date: May-2015  
Hardware Availability: May-2015  
Software Availability: Sep-2014

## Platform Notes (Continued)

### Memory:

32x NO DIMM NO DIMM  
64x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1333 MHz

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 1 TB and the dmidecode description should have two lines reading as:

32x NO DIMM NO DIMM  
64x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1333 MHz

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent\_hugepage/enabled

Filesystem page cache cleared with:

echo 1> /proc/sys/vm/drop\_caches

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

## Base Compiler Invocation

### C benchmarks:

icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

### C++ benchmarks:

icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

### C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175

Test date: May-2015

Test sponsor: Huawei

Hardware Availability: May-2015

Tested by: Huawei

Software Availability: Sep-2014

## Base Optimization Flags (Continued)

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64

401.bzip2: -DSPEC\_CPU\_LP64

456.hmmer: -DSPEC\_CPU\_LP64

458.sjeng: -DSPEC\_CPU\_LP64

462.libquantum: -DSPEC\_CPU\_LINUX

483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-auto-ilp32

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

## Peak Optimization Flags (Continued)

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-HSW-RevG.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-HSW-RevG.xml>



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1200

Huawei RH5885H V3 (Intel Xeon E7-4820 v3)

SPECint\_rate\_base2006 = 1150

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Jun 17 10:48:14 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 16 June 2015.